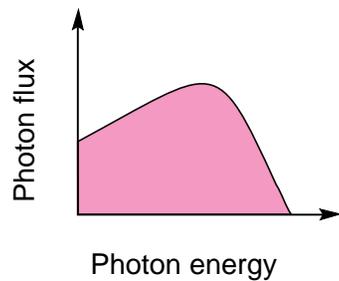
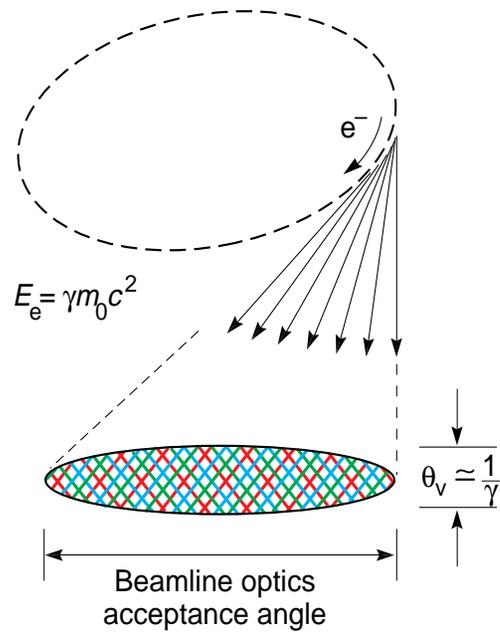




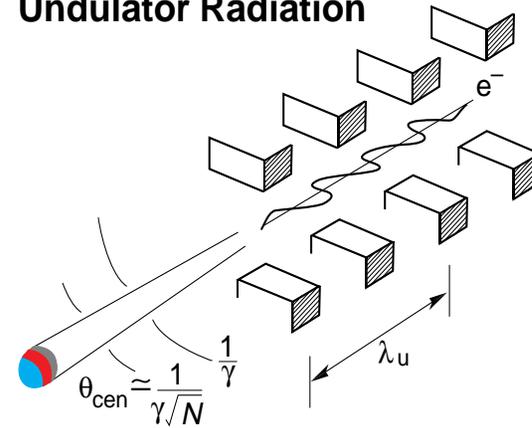
ALS Radiation is Produced by Bend Magnets and Undulators

ALS

Bend-Magnet Radiation



Undulator Radiation

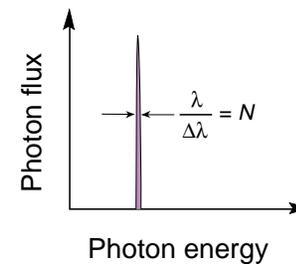


$$\lambda_x = \frac{\lambda_u}{2\gamma^2} (1 + \frac{K^2}{2} + \gamma^2 \theta^2)$$

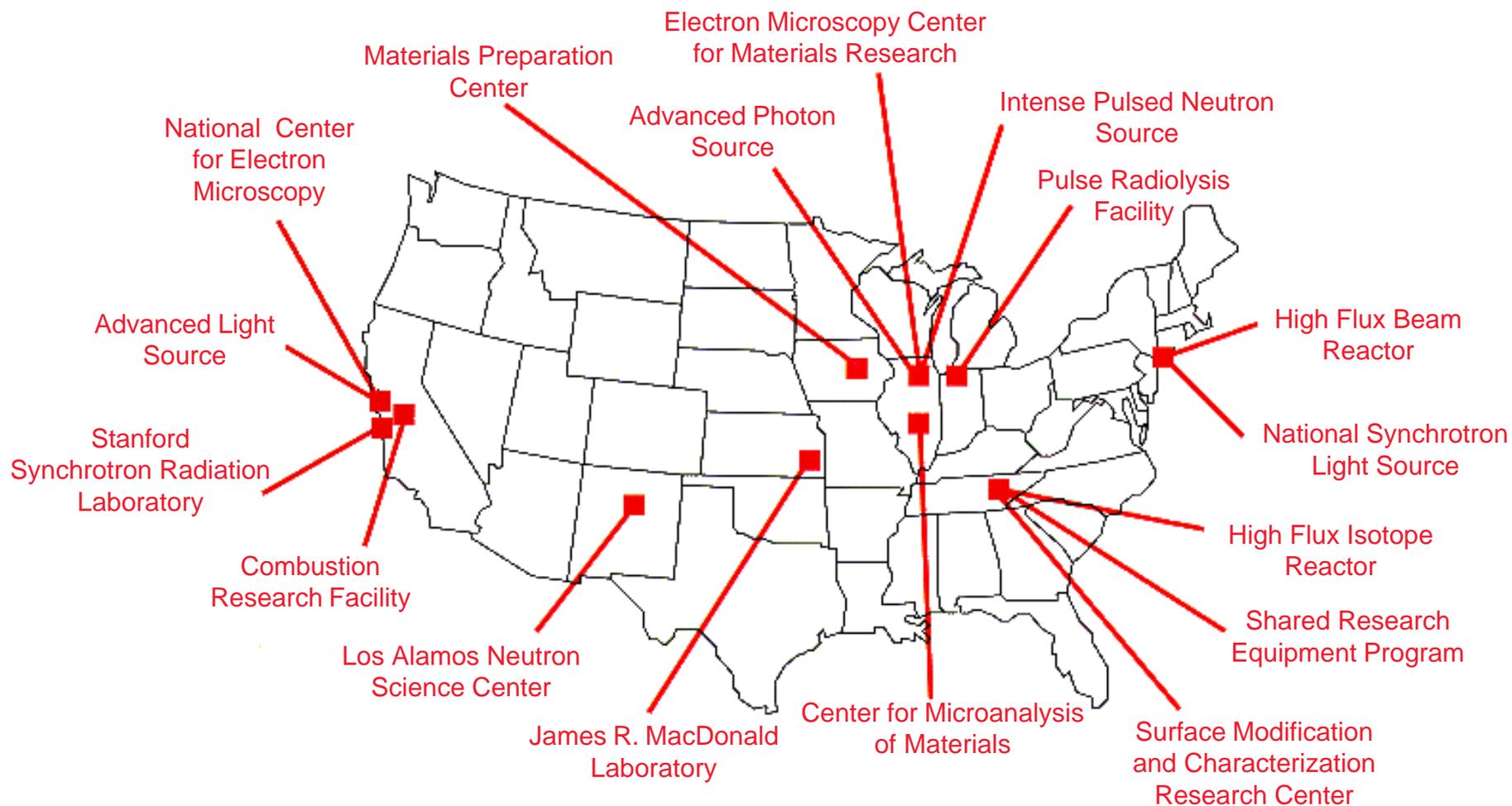
In the central radiation cone:

$$\frac{\Delta\omega}{\omega} \approx \frac{1}{N}$$

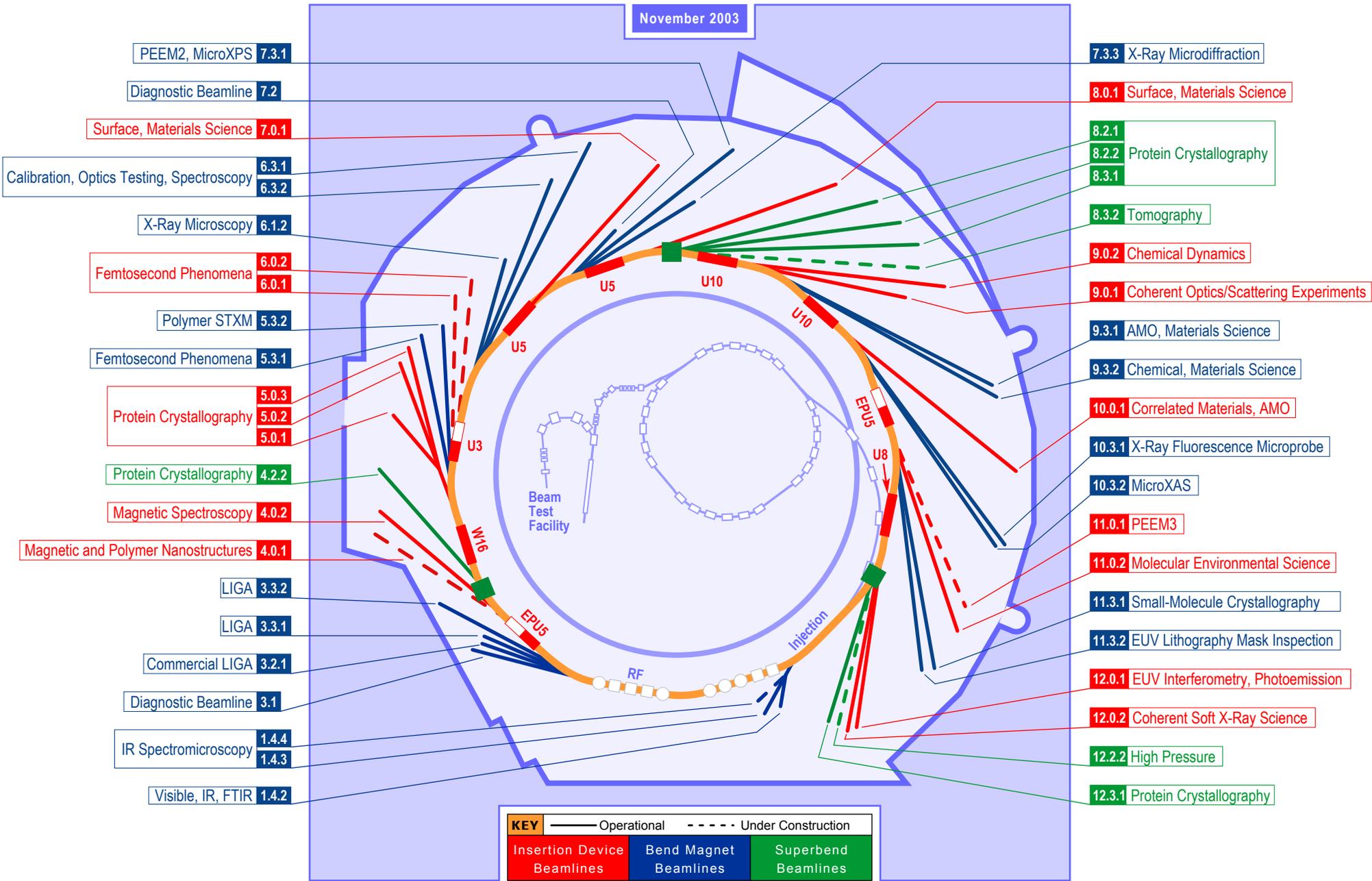
$$\theta_{cen} \approx \frac{1}{\gamma N}$$



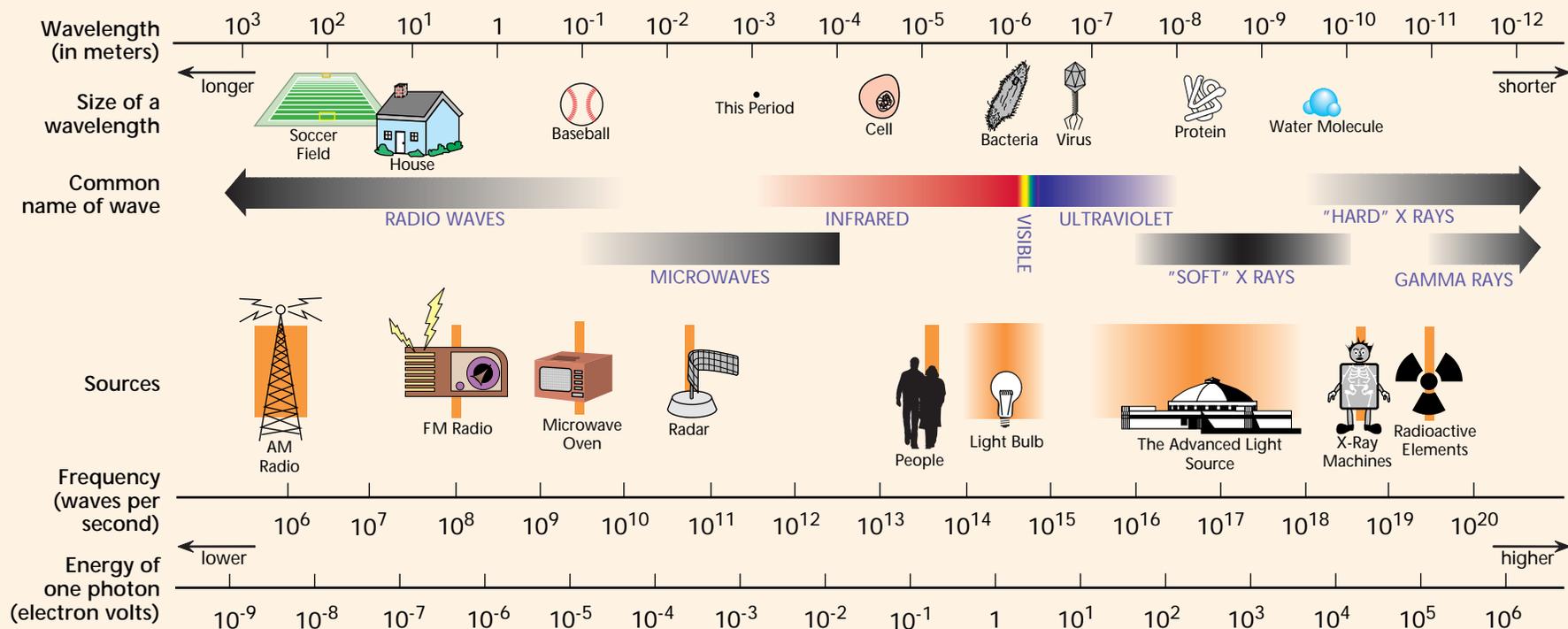
Basic Energy Sciences User Facilities



November 2003



THE ELECTROMAGNETIC SPECTRUM



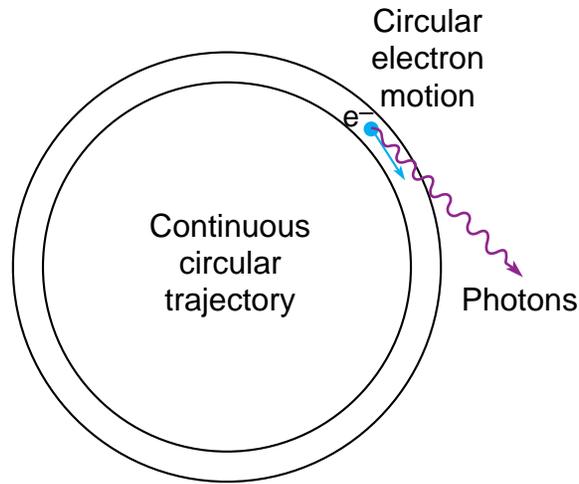
The ALS mostly produces ultraviolet light and soft x rays which have just the right energies to explore many of the atomic properties of matter.

Evolution of Synchrotron Radiation

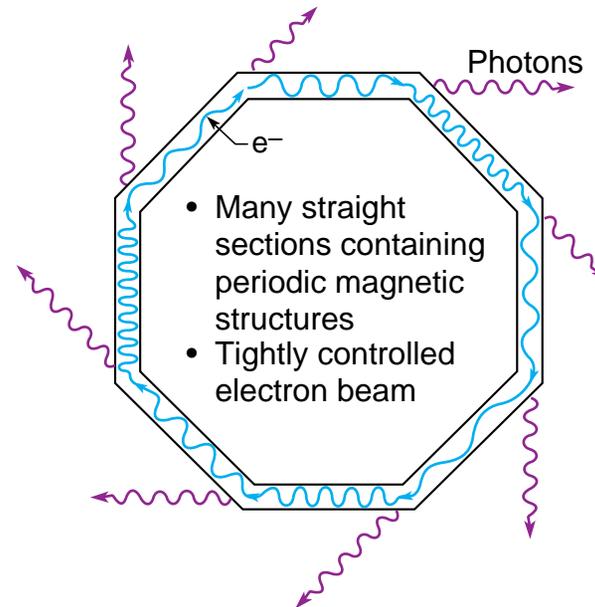
ALS

Technology

Yesterday's
Synchrotrons

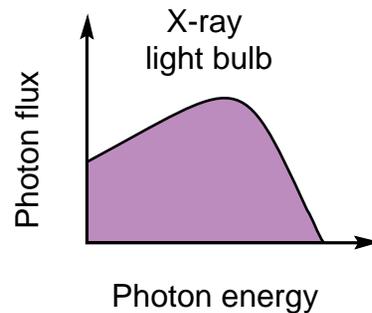


Third-Generation
Synchrotrons

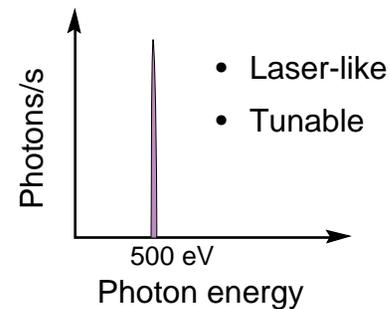


Spectral
Distribution

Bend Magnet
Radiation

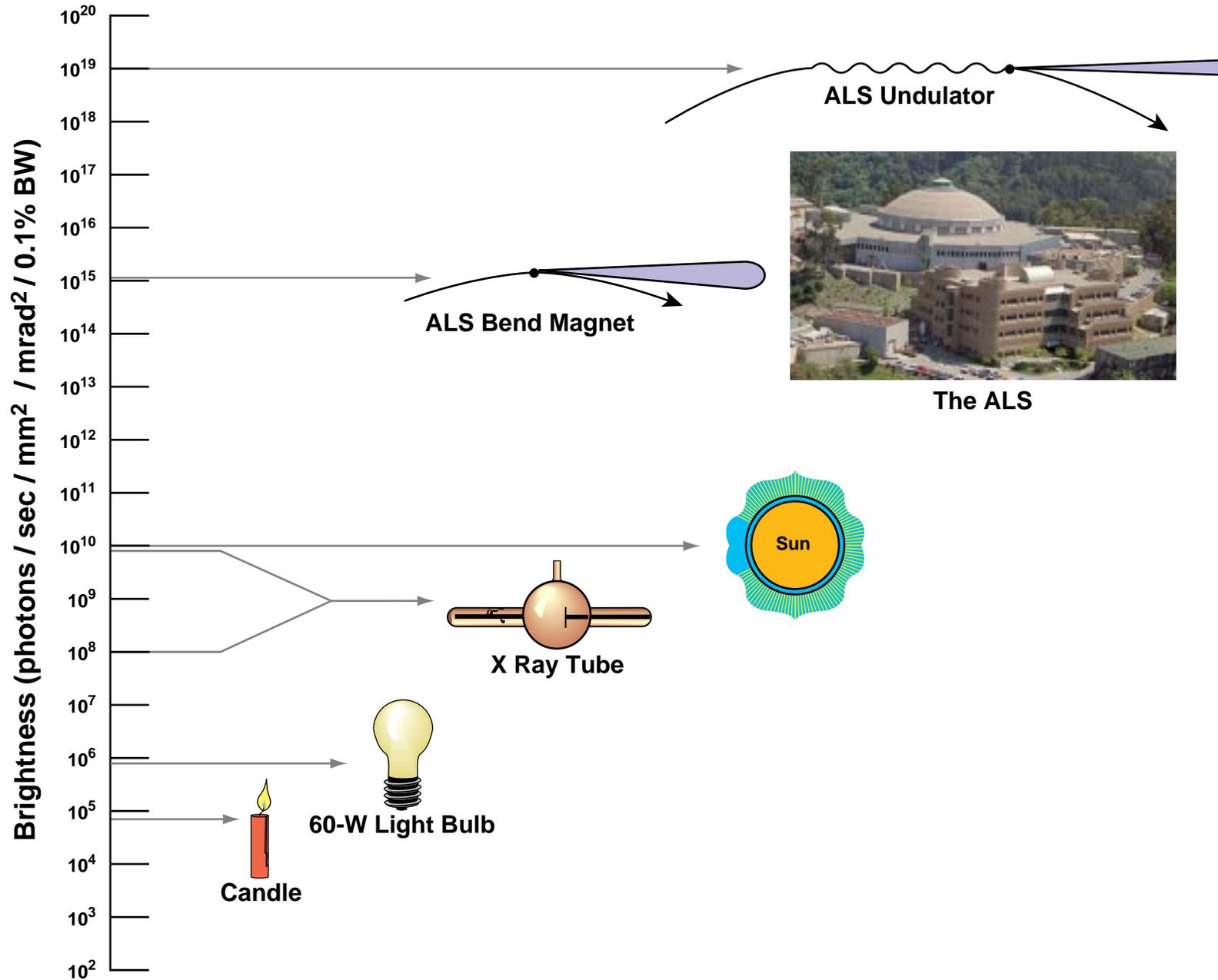


Undulator
Radiation



How Bright Is the Advanced Light Source?

ALS



Layout of the ALS

ALS

